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An endowed trade school
in a large city

[Peoria, Ill.]

[1914]

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... An endowed trade school in a large city. [By] Lewis Gustafson. [Peoria, Ill., 1914]

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Reprint from Vocational education, May, 1914.
Read before the Richmond meeting of the Department of superintendence, N. E. A., Feb., 1914.

1. David Rankin, jr., school of mechanical trades, St. Louis. I. Title.

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Reprint from VOCATIONAL EDUCATION, May, 1914.

AN ENDOWED TRADE SCHOOL IN A LARGE CITY.[1]

LEWIS GUSTAFSON.

THIS paper is a report of the aims, activities, and results of The David Ranken, Jr., School of Mechanical Trades in St. Louis, and is offered for your consideration because the Ranken School is an example of the privately endowed trade school operating in a large city in full sympathy and cooperation with the public schools tho not as a part of the public school system.

The school was founded in 1907 by the late David Ranken, Jr., a wealthy bachelor about 70 years of age, who turned over to a self-perpetuating board of trustees property to the value of a million and a half dollars, with the injunction that it be used for the organization and maintenance of a school for "training and fitting boys and men for the mechanical or manual trades and occupations." In making this gift Mr. Ranken stipulated that the instruction to be given must always be practical, "having in mind the need of the community and the state for practical workers in mechanical trades, who shall be skilled in their respective trades and occupations and have such education as will best fit them to serve the community and the state in such occupations." Later, in 1910, Mr. Ranken supplemented his original gift with an additional million and a half, making the endowment approximately three millions. The school opened in September, 1909, and is therefore in its fifth year.

Instruction is given in day classes, in evening classes, and in a cooperative course for apprentices. The instruction offered in the day classes covers carpentry, bricklaying, plumbing, sign painting and decorating, pattern-making, machine-shop practice, applied electricity, and steam engineering, with drafting, mathematics, applied science, and English composition as supplementary subjects.

THE REGULAR DAY CLASSES.

The regular day trade courses are two years in length. Students are in attendance seven hours a day for five days in the week for ten and a half months in the year, that is, from the first of September to the middle of July. Each student spends three-fifths of his time in the shop,

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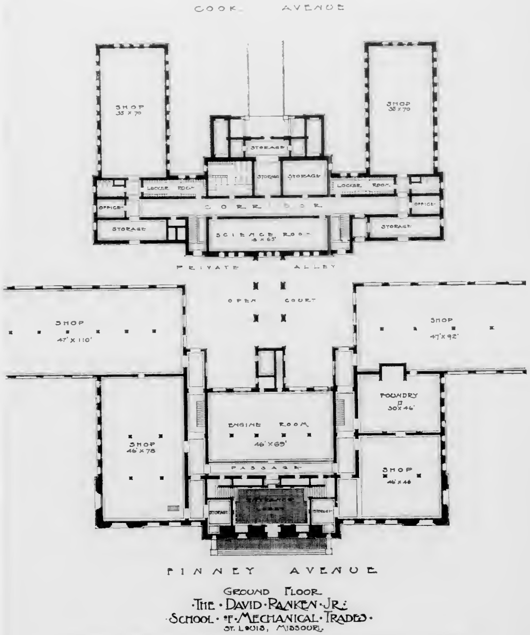
[1] Read before the Richmond meeting of the Department of Superintendence N. E. A., Feb., 1914.



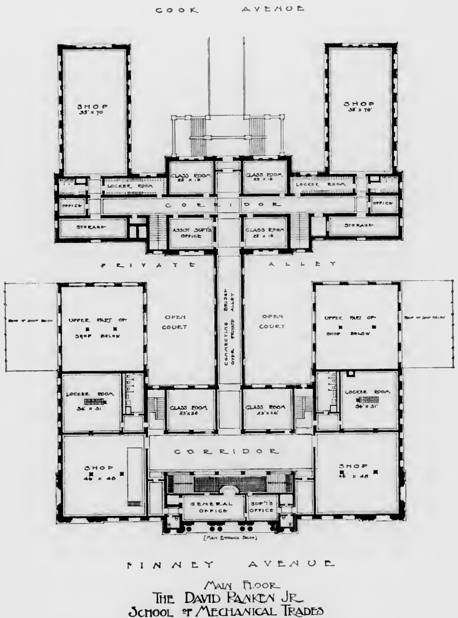
GROUND FLOOR PLAN, DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.

working with the tools of his trade, in the belief that skill with the tools is the great fundamental essential. The rest of the time he spends in the classroom. The aim is not only to give the pupils the hand skill and practice they need so that they may become working journeymen in their trades either immediately after graduation or in the shortest possible time thereafter, but also to give them such a working knowledge of blueprints, calculations, and scientific principles underlying their trades as will enable them eventually to rise to positions of responsibility or to go into business for themselves.

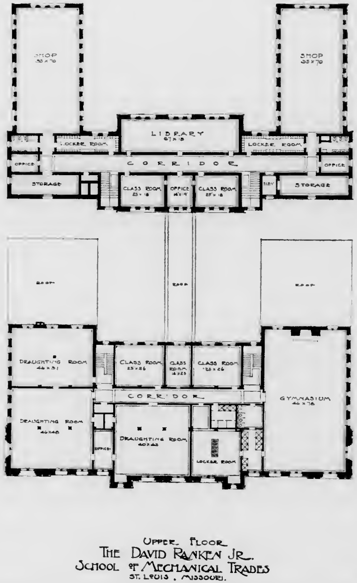
The shopwork in all cases consists of the actual trade operations, with actual trade tools, under the direction of instructors who have had successful experience as workers in their trades. All equipment is commercial equipment. Everything is made to full scale. From the beginning each student becomes familiar by habit with standard measurements and standard practices, so that the transition from school to building or from school to factory may be as natural as possible. In the supplementary instruction all matter not bearing on the trades has been eliminated. At every point possible the practical application of the subject matter has been emphasized. Traditional courses of study have been sacrificed to the needs of the future worker in his trade. In mathematics, for example, the students cover thoroly certain parts of algebra, geometry, and trigonometry in two years. They cannot pass a college entrance examination, but they can use their mathematics as a tool. The present enrolment in these regular trade classes is about one hundred and eighty. The tuition fee is thirty dollars a year.

THE PREPARATORY COURSE.

When the school was first opened in September, 1909, students were admitted who had reached the age of fifteen and had completed the sixth grade. A persistent demand, however, on the part of the fourteen-year-olds who had completed the sixth grade was responsible in 1911 for a lowering of the entrance age to fourteen and for a slight increase in the length of the course. Beginning with September, 1914, the regular trade classes will be open to boys of sixteen for a two-years' course. Boys between fourteen and fifteen will be assigned to a year of general preparatory instruction. Boys between fifteen and sixteen will be assigned either to the preparatory division or to the regular trade classes as seems best in individual cases.

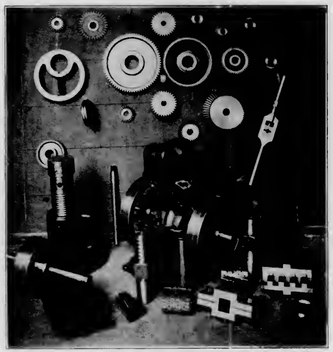


FIRST FLOOR PLAN, DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.



UPPER FLOOR PLAN, DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.

The curriculum of the preparatory course will provide for supplementary instruction for half of each day and for shop instruction the other half. This shop instruction will consist of work in wood and metal with the idea of training the student to know these materials and to handle properly the carpenter's saw, hammer, and chisel, the tinner's snips and soldering iron, the machinist's chisel and file. It is the hope that a year of this work will give the student a more reasonable basis for his choice of a trade and will enable him to learn that trade more effectively after he has chosen it. The supplementary instruction will probably not differ materially from that in the regular course.



WORK DONE IN DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.

The students in the cooperative classes number about forty. These are apprentices, mostly of the shops of the St. Louis branch of the National Metal Trades Association, apprenticed to their employers for a term of either three or four years under promise of learning the shopwork in the factory. They are sent to the school two half days (seven hours total) each week for two years on full pay, the employer paying the school fifteen dollars a year for tuition. The subjects covered in the instruction are drafting, mathematics, and applied science, adapted to the needs of future machinists.

The present enrolment in the evening classes numbers over four hundred. The instruction is along the same general lines as the instruction offered in the day time but with a greater flexibility of choice for each student and with a more varied adaptation to the needs of individual workers already engaged in the trades. Two of the evening classes are of especial interest: the first is a class in the drafting of ornamental plastering details introduced for the benefit of the apprentices of Plasterer's Local No. 3, at the request of the Union, and the other is a class in sheet metal pattern drafting introduced at the request of the Sheet Metal Contractors Association for the benefit of their apprentices with the Union's consent and approval. The evening classes are in session from seven-thirty to nine-thirty four evenings each week from October to March inclusive and the students pay a tuition fee of from five to twenty dollars for the season.

The growth of the school since its opening four and a half years ago has been steady. The total enrolment the first year was 247, the second year it was 465, the third year it was 526, and last year it was 722. This year it will be still higher. Seventy-nine students have been graduated from the regular day trade classes. Of these fully eighty per cent have secured employment at their trades or at occupations for which their training at the school fitted them. A number of these have been admitted to the unions, either as advanced apprentices or as journeymen.

In addition to the graduates, a number of those who did not stay to complete their course have done admirably in the trades they pursued while at the school.

RELATION TO CULTURE.

The charge could easily be made that such an institution is narrow, utilitarian, uncultural. The reply to such a charge would be that any school founded for practical, plain, and simple instruction in the mechanical trades and with a student body financially unable to prolong its school life indefinitely must be a highly specialized sort of institution, designed to accomplish certain definite results in a limited time, in duty bound to concentrate on those things for which it was founded. At the same time it is pretty generally recognized that culture does not reside alone in bookish things, and that the work of the hands and of the mind

INTENTIONAL SECOND EXPOSURE

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WORK DONE BY [illegible] ANKEN JR., SCHOOL OF MECHANICAL TRADES.

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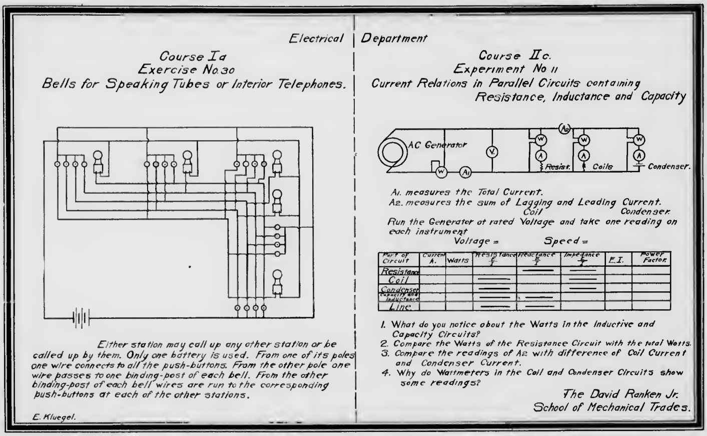


Electrical | Department

Course Ia
Exercise No.30
Bells for Speaking Tubes or Interior Telephones.

Either station may call up any other station or be called up by them. Only one battery is used. From one of its poles one wire connects to all the push-buttons. From the other pole one wire passes to one binding-post of each bell. From the other binding-post of each bell wires are run to the corresponding push-buttons at each of the other stations.

E. Kluegel.

Course IIc.
Experiment No 11
Current Relations in Parallel Circuits containing
Resistance, Inductance and Capacity

A1. measures the Total Current.
A2. measures the sum of Lagging and Leading Current.
Coil Condenser.

Run the Generator at rated Voltage and take one reading on each instrument

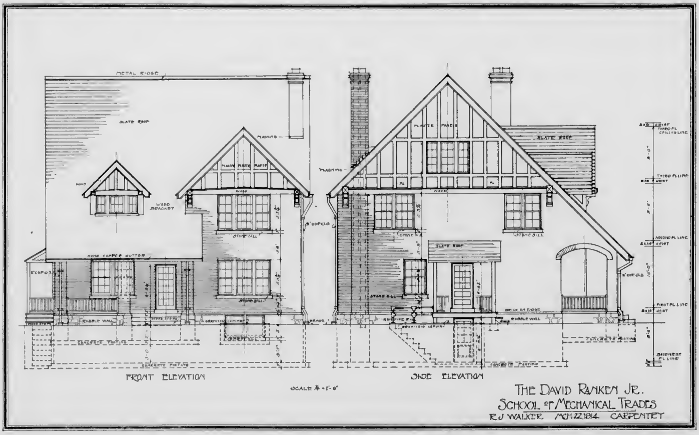
Voltage =
Speed =

Part of Circuit	Current A.	Watts	Resistance $\frac{E}{I}$	Reactance $\frac{E}{I}$	Impedance $\frac{E}{I}$	E.I.	Power Factor.
Resistance				—	—		
Coil			—		—		
Condenser			—		—		
Capacity and Inductance			—	—			
Line			—	—			

1. What do you notice about the Watts in the Inductive and Capacity Circuits?
2. Compare the Watts of the Resistance Circuit with the total Watts.
3. Compare the readings of A2 with difference of Coil Current and Condenser Current.
4. Why do Wattmeters in the Coil and Condenser Circuits show some readings?

The David Ranken Jr.
School of Mechanical Trades.

A SHEET OF ELECTRICAL PROBLEMS.



THE DAVID RANKEN JR.
SCHOOL OF MECHANICAL TRADES
R J WALKER MCH 22.1914 CARPENTRY

A PROBLEM IN ARCHITECTURAL DRAFTING.

on concrete things may be made a medium of high cultural value. In this particular instance the cultural value of work in the concrete is supplemented daily by human interests and human intercourse in shop and classroom, lunchroom, library, gymnasium, and athletic field, by a happy and wholesome school atmosphere, and by a liberal sprinkling among the student body of pupils who have completed one year, two years, three years, or even four years of work in the city high schools.

The bearing of all this and the application of all this to public school systems opens a field for much debate. That a progressive trade school on a liberal scale may be operated liberally and successfully in a large city in cooperation with the public schools, that it may be carried on with the cooperation of employers and of workmen, that it may be operated in such a way as not only not to antagonize labor but in some cases even to gain its active support, and that its graduates may find a successful career in their trades opening up before them, the short experience of the Ranken School seems amply to demonstrate. That every large city should have a highly specialized trade school of the Ranken type seems in the light of modern industrial experience and past discussions not to require further demonstration. But whether the public school system of a city should endeavor to establish and maintain out of public funds such a highly specialized school is another matter and one open to serious question. To begin with, a trade school costs much money for equipment and maintenance; it reaches only a small part of the community; in reaching this small part it must tax the many for the benefit of the few. No school can teach all the trades. It must therefore make a selection; and in making this selection it must subsidize and foster a few occupations at the expense of the rest.

To my mind the public school system may better concern itself, at least first, with vocational guidance, with prevocational or preparatory trade training of a more general nature, with part time and cooperative instruction for boys and girls already in the industries, and with evening instruction of a technical nature suited to the industrial needs of individual workers. But in suggesting these activities I must urge that all education to be vocational must draw its content from the vocations and make its application to them, that to be industrial it must draw its content from the industries and make its application to the industries, that to be efficient it must analyze its pupils as to their vocational and industrial needs, and that to be honest it must be administered with suitable equipment by suitable instructors with teaching ability who know their subject-matter at first hand.

END OF
TITLE